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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,288	08/30/2000	Hidefumi Yoshida	0610.64705	2568

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EXAMINER

NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 08/10/2004

20

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

09/651,288

Applicant(s)

YOSHIDA ET AL.

Examiner

Chanh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 and 60-115 is/are pending in the application.
- 4a) Of the above claim(s) 1-49, 54 and 61-113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 50-53, 55-58, 114 and 115 is/are rejected.
- 7) ☒ Claim(s) 60 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

DETAILED ACTION

The amendment filed on May 27, 2004 has been entered and considered by examiner.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 114 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 114 recites that "wherein said impulse control is carried out when said display image is shown with all the pixel electrodes of the liquid crystal panel and is a moving image". No where in the specification describes the limitation above.

Furthermore, the claim recites that "an impulse control function in which image to be displayed with each of the pixel electrode is output in a predetermined period within the first period and is not output during a remaining period within the first period".

Assuming that the first period is a one frame period which is a whole display panel period. Thus the moving image is displayed only a portion of the display panel period .

It does not make any sense the impulse control is carried out when said display image is shown with all the pixel electrodes of the liquid crystal panel and is a moving image".

It is clear that the two limitations above contradict each other.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 50, 57 and 115 are rejected under 35 U.S.C. 102(e) as being anticipated by Akimoto et al (U.S. Patent No. 6,329,973).

As to claim 50, Akimoto discloses a liquid crystal display device including a liquid crystal panel in which a plurality of signal lines (45) for transmitting display data and a plurality of scanning lines (50) for transmitting controlling signals being laid out vertically and horizontally, a pixel electrodes (49) being arranged at intersections of the

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signal lines (45) and the scanning lines (50) via switching elements (48); see Figure 2. Akimoto teaches the device having a hold control function (i.e. function of still image) in which an image to be displayed being output in one entire frame period (e.g., displayed still image on from a first row and a eighth row), and an impulse control function (a function of moving picture) in which an image to be displayed being output in a predetermined period (i.e. a period from a third row to a sixth row) within one frame period (a period from a first row to eighth row); see Figure 3 and see column 3, lines 22-27. It is clear that the image to be displayed in moving area (hold control function) of Akimoto is not outputted during a remaining period within the one frame period because the image data inputs image data of only rows including a part called moving picture part (see column 1, lines 53-56). Akimoto clearly teaches the output of the image being done in units of pixel electrodes (49) connected to at least one of the scanning lines (50).

Akimoto clearly teaches the hold control carried out when the displayed image being a still image and the impulse control being carried out when the displayed image being a moving image (see column 3, lines 22-27). The limitation "shown with all pixels electrodes" is taught by Akimoto because each of pixels (49) of Akimoto is formed by a pixel electrode and common electrode. Thus, the image either still or moving displayed by all the pixel electrodes in its area.

While the device to Akimoto is unlike applicant's disclosed device it reads on applicant's broad claimed language.

As to claim 57, Akimoto clearly teaches the switching elements (48) being polysilicon TFTs (Thin Film Transistors); see column 3, lines 55-56.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 114 and 115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto et al in view of Fujiyoshi (U.S. Patent No. 6,211,854 B1).

As to claim 115, note the discussion of Akimoto, claim 115 differs from claim 50 only in that the limitation "wherein the image on a display screen of the liquid crystal

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panel is displayed by carrying out either one of said hold control and said impulse control" is additionally recited. Fujiyoshi teaches that "the moving image/still image determination signal corresponding to either one of one of the moving image or the still image is outputted" (see column 6, lines 25-32). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the determination circuit as taught by Fujiyoshi to the image generating circuit (1) of Akimoto so that the power consumption can be minimized because of driving method switching (see column 3, lines 3-39 of Fujiyoshi).

As to claim 114, note the discussion of Akimoto, claim 114 differs from claim 50 only in that the limitation "all the pixel electrodes of the liquid crystal panel" is recited in the hold control and impulse control' whereas claim 50 recited the limitation "all the pixel electrodes", but does not recite the limitation "of the liquid crystal panel". Fujiyoshi clearly teaches both still image and moving image displayed in one frame(see column 6, lines 19-49). Thus Fujiyoshi clearly teaches display image shown all of pixel electrodes of the liquid crystal panel. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the determination circuit as taught by Fujiyoshi to the image generating circuit (1) of Akimoto for the same reason as discussed in claim 115.

6. Claims 51-52 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Matsuzaki et al (U.S. Patent No. 5,644,332).

As to claim 51, note the discussion of Akimoto above, Akimoto does not mention the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value. Matsuzaki teaches that "when the total number of scan lines on the display screen of the FLCD 26 is equal to 1312, if $N1 = 1000$ and the count value of the counter 513 is larger than $N1$, it is detected that the display mode which is executed by the CPU 11 is scrolled display mode" (see column 8, lines 13-17). Thus, Matsuzaki clearly teaches switching to the moving mode (i.e. scrolling display mode) from the still image (i.e. display mode) once the display data exceeds a predetermined value (i.e. 1000). This reads on the claimed limitation "the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value" as recited in claim. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have provided the teaching of switching from the still image to moving image as taught by Matsuzaki to the moving image device of Akimoto so that a rewriting operation performs at a relatively high speed on the whole display screen (see column 2, lines 30-44 of Matsuzaki).

As to claim 52, the limitation "when the display data makes changes for over a period of two or more frame" is taught by Matsuzaki. For example, Matsuzaki teaches that an image is to be moved if $N1$ is greater than 1000. Thus if $N1 = 2624$ which is twice of scan lines on the screen or two frames, then the image is moving from the display mode. This reads on the claimed limitation.

As to claim 58, this claim is analyzed as previously discussed with respect to claim 52 above since it recites similar limitations as claim 51 does.

7. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Numao (U.S. Patent No. 5,103,328).

As to claim 53, note the discussion of Akimoto above, Akimoto does not mention a shutter facing the liquid crystal display panel. Numao teaches a shutter (21) inserted between a matrix display panel 20 and a light source 19; see Figure 2 and see column 4, lines 25-27. Thus, Numao clearly teaches the shutter (21) faces to liquid crystal panel (20) as broad claimed language. The claim does not required the shutter arranged on the front surface of the liquid crystal. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the shutter as taught by Numao to the liquid crystal panel of Akimoto so as to prevent the display from flickering when the image is moving; see column, 2, line 66 to column 3, line 12 of Numao.

8. Claims 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Terasaki (U.S. Patent No. 5,844,540).

As to claims 55-56, note the discussion of Akimoto above, Akimoto does not mention the brightness of the backlight being increased in the impulse control than in the hold control. Terasaki teaches 1) a user can manually adjust the brightness of the display via backlight (see column 10, lines 9-12) 2) the brightness of slow motion

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reproduction and still reproduction is recognized (see column 29-34) 3) brightness of the video image of the television system (moving image) and character image CG (still image) can be adjusted (see column 28, line 1-39). Thus, Terasaki clearly suggests that the brightness of the moving image and the still image can be either adjusted different from each other through the PWM dimmer section (i.e. backlight can be increased through the PWM in video mode) or adjusted equally. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the PWM dimmer section as taught by Terasaki to the backlight of Akimoto so that an occurrence of flicker and flutter can be prevented effectively (see column 6, lines 32-40 of Terasaki).

Allowable Subject Matter

9. Claim 60 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed April 15, 2003 have been fully considered but they are not persuasive.

On page 40, applicant argues that " the present invention, on the other hand, specifically features that hold and impulse controls are respectively carried out when the display image is shown with all of the pixels electrodes of the device, not only the pixel electrodes in the area of the image". However, independent claims 50 and 115 do not recite the limitation "of the device" as applicant argument. The claims simply recites "all of pixel electrodes" is broadly interpreted as "all pixel electrodes in the area of the image". Secondly, the recitation "all the pixel electrodes of the liquid crystal panel" as recited in claim 115 is raised problem of 112, first paragraph as previously analyzed in the office action above. Thirdly, displaying moving image and still image in a whole frame display panel is well-known in the art and is rejected by Fujiyoshi to claim 115. Applicant also argues that the hold and impulse control in claim 50 are not carried at the same time. However, the recitation "not carried at the same time" is not recited in claim 50. Applicant may argues that issue to claim 115 which recites ""wherein the image on a display screen of the liquid crystal panel is displayed by carrying out either one of said hold control and said impulse control", but not claims 50 and 114. Again, the limitation "wherein the image on a display screen of the liquid crystal panel is displayed by carrying out either one of said hold control and said impulse control" to new claim 115 is clearly taught by Fujiyoshi.

On pages 42-43, the argument presented by applicant to claims 51-52, 58 and 60 is not persuasive because applicant simply argues the reference of Akimoto, but the rejection is obvious Akimoto in view of Matsuzaki. Thus, While Akimoto does not mention the limitation switching, Matsuzaki clearly teaches the limitation switching as

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set forth in the rejection. Applicant also argues that the examiner has not cited to where in the prior art of record all the these claimed features (comparison ratios in claims 51, 58 and the certain type of recited include information in claim 60) may be found. Examiner totally disagrees with applicant this point of view because claims 51 and 58 are carefully reviewed and rejected as being unpatentable over Akimoto in view of Matsuzaki. Claim 60 is rejected as being unpatentable over Akimoto in view of Kamikura. Applicant simply argues the reference of Akimoto, but does not present any argument to the neither reference of Matsuzaki or Kamikura. Thus, while Akimoto does not mention the limitations recited in claims 51, 58 and 60, but Matsuzaki and Kamukura clearly teaches the limitations recited in claims 51, 58 and 60.

On page 44, first paragraph, applicant argues that both claims 51 and 58 recited both an active switching and that such switching is based upon a ration of two different parameter. However, the claims do not recite the limitation "active switch" as applicant arguments.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



C. Nguyen
August 5, 2004



CHANH NGUYEN
PRIMARY EXAMINER